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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,706	11/05/2001	Chung-Fan Chiou	0158/0J974	2309

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805 Third Avenue  
New York, NY 10022

EXAMINER
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GORDON, BRIAN R

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/021,706

Applicant(s)

CHIOU ET AL.

Examiner

Brian R. Gordon

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11-5-01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 15, 17-20 and 22-24 is/are rejected.
- 7) ☒ Claim(s) 6, 8-14, 16, 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11-5-01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract contains claim terminology. For example, applicant's abstract contains the term "comprises".

2. The disclosure is objected to because of the following informalities: On page 12, reference numeral "730" is used to designate both "fixture" and "substrate".

On page 13, reference numeral "711" is used to designate both "fixture" and "base".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5, 7, 15, 17-20, and 22-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Shalon et al., US 6,309,891.

Shalon et al. discloses printing systems and methods for depositing small volumes of liquid on solid substrates.

Referring to FIG. 21, a printing system 210 comprising a multihead printing assembly 211 rotatably attached to a multichip turntable 212 (conveying device with base). The assembly 211 comprises a plurality of single-piece construction high density (400 tips/cm<sup>2</sup>) multi-channel (plurality of nozzles) detachable printing heads 91 (series of dispensers at dispensing positions) joined to the assembly 211 through actuators 213 which provide positioning stages 214 and L-brackets 215 for attaching the print heads 91. The turntable 212 provides chip receptacles 217 (transferring devices/fixtures) which position the chips 216 which provide a printing substrate. In operation, the actuators 213 simultaneously stamp their respective printing heads 91 on the corresponding chips 216. Thereafter, the turntable 212 rotates one chip position and the necessary printing offset is effected by turntable 212 rotation, actuator 213 positioning, or both. As the printing on a given chip 216 is completed (e.g. a complete array is deposited), the chip 216 is removed from the turntable 212 and replaced with a new chip 216, thereby providing uninterrupted printing.

***Allowable Subject Matter***

5. Claims 6, 8-14, 16 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not teach nor fairly suggest (1) the base is provided with a slot, and each of the transferring devices comprises: a cam rotatably disposed at the base; and a rod extending through the slot for moving the substrate, wherein the rod is connected to the cam at one end, and abuts the substrate at the other end, wherein the rod moves the substrate by the rotation of the cam, (2) the conveying device further comprises a plurality of positioning devices, disposed on the base, corresponding to the series of dispensing positions; and a plurality of retainers, disposed on the base, corresponding to the plurality of positioning devices wherein each of the positioning devices pushes the fixture into a predetermined position corresponding to dispensing position and the retainers hold the fixture in the predetermined position, (3) a step motor, electrically connected to the conveying device, for moving the conveying device the predetermined distance; and at least one sensor, for detecting the position of the substrate, electrically connected to the step motor, whereby the movement of the substrate, moving along with the conveying device, depends on the detection of the sensor and (4) a method wherein the series of receiving positions are linearly arranged.

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**Conclusion**


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hilson et al., Fawcett et al., Richards et al., Little et al., Ganz et al., Hadimioglu et al., Copeland et al., Kowallis et al., Gamble et al., Bogen et al., and Healey et al. disclose devices and methods of dispensing a substance to a substrate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Gordon whose telephone number is 571-272-1258. The examiner can normally be reached on M-F, with 2nd and 4th F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

brg

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700